Johnson Controls, Inc.
1302 East Monroe Street
Goshen, IN 46526
Tel. 219/533-2111

IB-2
Elkhart, +

JOHNSON CONTROLS
Control Products Division

Attn: Mr. Robert Malone
Department of Environmental Management
Office Of Solid & Hazardous
Waste Management
105 South Meridian Street
Indianapolis, IN 46225

October 14, 1986

Dear Mr. Malone:

RCRA LETTER OF INADEQUACY (L-087)
JOHNSON CONTROLS IND 009549593

Enclosed find a copy of the report of the results of the soil sampling conducted by EIS Environmental Engineers, Inc. at Johnson Controls, Control Products Division, Goshen, Indiana.

If you require additional information or assistance, please feel free to contact me.

Yours truly,

John G. Fecteau

John G. Fecteau
Safety & Environmental Control Administrator

JGF/mk

cc: Elkhart County Health Department
Sally Swanson, U.S. EPA, Region V
Jack Corpuz, Indiana Dept. of Environmental Management
Tim Miller, Indiana Dept. of Environmental Management
Chrystal Myers, Office of Environmental Response
R.T. Hammond
J.H. McCorkel

ANALYSIS OF SOIL SAMPLES

FOR

JOHNSON CONTROLS, INC.

GOSHEN, INDIANA

OCTOBER 1986

EIS ENVIRONMENTAL ENGINEERS, INC.

1701 NORTH IRONWOOD DRIVE

SOUTH BEND, INDIANA 46635

1.0 INTRODUCTION

EIS Environmental Engineers, Inc. (EIS), South Bend, Indiana, was retained by Johnson Controls, Inc., Control Products Division, 1302 East Monroe Street, Goshen, Indiana, to collect and analyze soil samples at their Goshen facility.

2.0 LOCATION/DESCRIPTION

The study site is located at 1302 East Monroe Street, on the northeast side of the East Parking Lot (See Figure 2.0).

Soil sampling was performed at four locations adjacent to the point where a break in a sanitary sewer occurred. The sewer line break was located downstream from a point where the plant's wastewater treatment system discharges to the sanitary sewer. At the location of the break the sanitary sewer flows in a northwesterly direction.

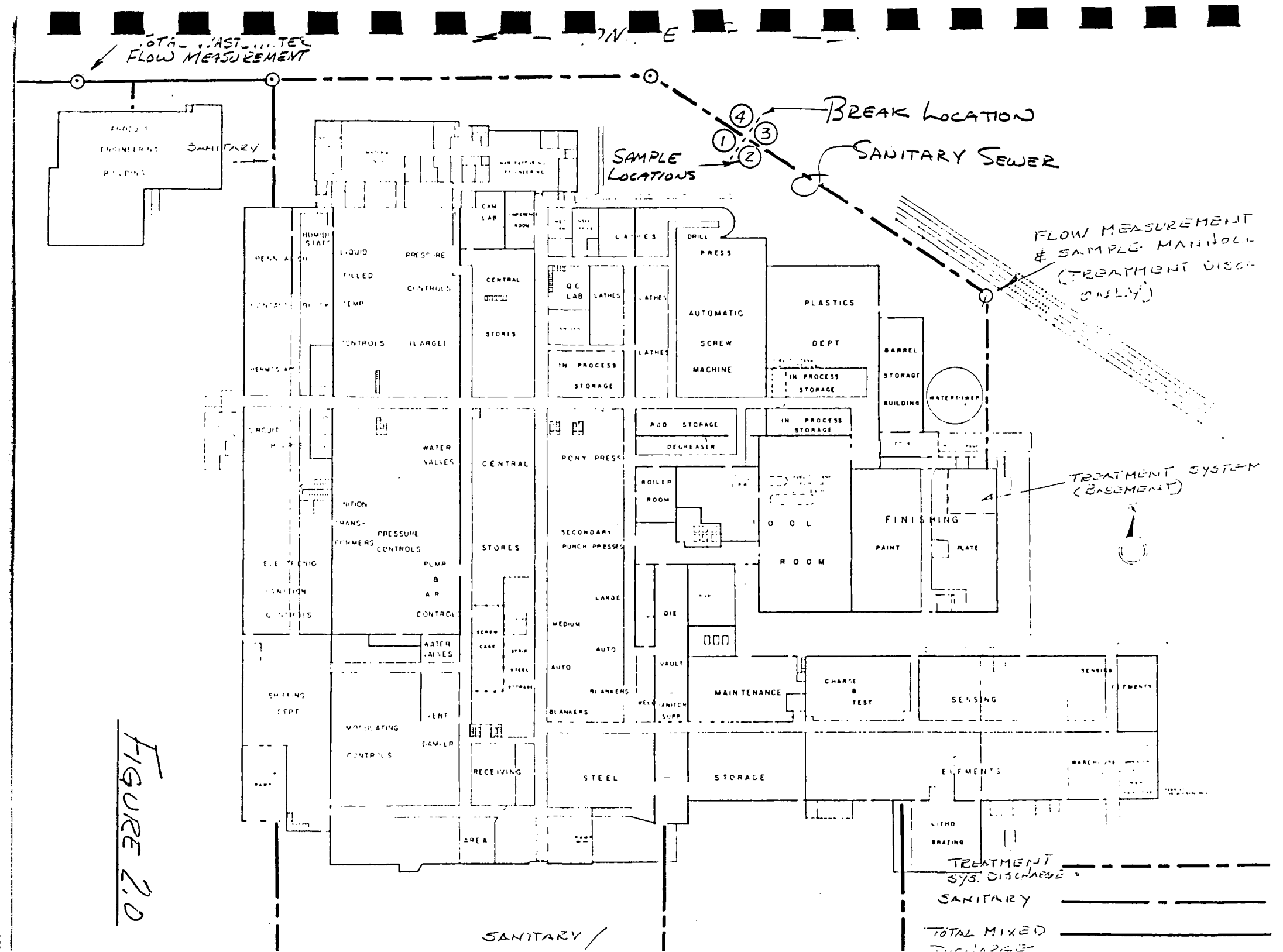
FLOW MEASUREMENT
BREAK LOCATION
SAMPLE LOCATIONS
SANITARY SEWER
FLOW MEASUREMENT & SAMPLE MANHOLE (TREATMENT DISCHARGE ONLY)
TREATMENT SYSTEM (BASEMENT)
SANITARY
PLASTICS DEPT
AUTOMATIC SCREW MACHINE
CENTRAL STORES
PONY PRESS
SECONDARY PUNCH PRESSES
TOOL ROOM
FINISHING
PAINT
PLATE
BOILER ROOM
MAINTENANCE
CHARGE & TEST
SENSING
STEEL
STORAGE
RECEIVING
LATHES
QC LAB
IN PROCESS STORAGE
BARREL STORAGE BUILDING
WATER VALVES
PRESSURE CONTROLS
PUMP & AIR CONTROLS
DIE
VAULT
LITHO
BRAZING
TREATMENT SYS. DISCHARGE
SANITARY
TOTAL MIXED

FIGURE 2.0

3.0 INVESTIGATION PROCEDURES

At each of the four boring locations soil samples were collected in accordance with ASTM Test Method D-1586. The samples were collected using a 18 inch stainless steel split-barrel sampler at 3.5 - 5 feet, 8.5 - 10 feet, 13.5 - 15 feet and 18.5 - 20 feet depths.

Subsurface Exploration Logs are provided in the Appendix of this report.

The split-barrel sampler was washed in deionized water and a brush was used to remove remaining soil particles. The sampler was then rinsed in a solution of 10% hydrochloric acid and finally rinsed in deionized water. The soil samples were labeled, placed in a cooler with ice and were delivered by the EIS site geologist directly to the EIS laboratory for analysis.

A Chain-of-Custody Record and an EIS Sample Log-in Sheet for the project are included in the Appendix.

4.0 RESULTS

A total of sixteen (16) soil samples were analyzed by the EIS laboratory.

The soil samples were analyzed for Total Cadmium, Total Chromium, Total Zinc and percent moisture.

The laboratory results are presented on the EIS analytical report sheet.

EIS ENVIRONMENTAL ENGINEERS, INC.
1701 North Ironwood Drive • South Bend, Indiana 46635 • Telephone (219) 277-5715

ANALYTICAL REPORT SHEET

CLIENT: Johnson Controls, Inc.

ANALYSIS NO: 3404F - 3419F
DATE SAMPLED: 9-16-86
DATE RECEIVED: 9-16-86
DATE FORWARDED: 10-9-86

SAMPLE IDENTIFICATION:

Soil Samples Collected by ASTM Method D-1586 at 1302 E. Monroe, Goshen, Indiana

Sample Description		mg/kg (Dry Wt) Cd	Cr	Zn	% Moisture Dried at 60 °C
Boring No. 1					
#1	3.5 - 5.0	<1.5	19.	41.	9.2
#2	8.5 - 10.0	<1.6	13.	34.	4.6
#3	13.5 - 15.0	<1.7	14.	32.	18.4
#4	18.5 - 20.0	<1.4	12.	17.	14.7
Boring No. 2					
#5	3.5 - 5.0	<1.7	12.	35.	6.5
#6	8.5 - 10.0	<1.7	14.	25.	5.1
#7	13.5 - 15.0	<1.1	15.	28.	13.7
#8	18.5 - 20.0	<2.4	14.	20.	15.5
Boring No. 3					
#9	3.5 - 5.0	<1.9	16.	34.	9.0
#10	8.5 - 10.0	<1.6	11	21.	3.5
#11	13.5 - 15.0	<1.7	16.	26.	14.4
#12	18.5 - 20.0	<1.4	14.	25.	15.5
Boring No. 4					
#13	3.5 - 5.0	<1.9	11.	28.	7.1
#14	8.5 - 10.0	<1.1	13.	20.	3.4
#15	13.5 - 15.0	<1.5	14.	29.	14.2
#16	18.5 - 20.0	<1.3	19.	38.	16.9

The samples were prepared and analyzed for Total Metals according to the EPA "Test Methods for Evaluating Solid Waste", SW-846, Second Edition.

Method 3050 was used for preparation and digestion followed by the Method of Standard Additions for analysis.

Andrea Rozite
LABORATORY DIRECTOR

APPENDIX

CHAIN OF CUSTODY RECORD – EIS ENVIRONMENTAL ENGINEERS INC

Project No:	Project Name
1332-01	SPLIT SPOON SAMPLING

Samplers: (Signature) J. Ward

Sta.No.	Date	Time	Comp	Grab	Station Location	Quantity of Containers	ANALYSIS: TOTAL CADMIUM	ANALYSIS: ZINC	ANALYSIS: CHROMIUM	Remarks	EIS LAB USE ONLY: Sample State (I=Intact B=Broken)	EIS LAB USE ONLY: Tape
1	9-16-86	1000		X	BORING NO. 1	1	X	X	X			
2	"	"		X	"	1	X	X	X			
3	"	"		X	"	1	X	X	X			
4	"	"		X	"	1	X	X	X			
5	"	"		X	BORING NO. 2	1	X	X	X			
6	"	"		X	"	1	X	X	X			
7	"	"		X	"	1	X	X	X			
8	"	"		X	"	1	X	X	X			
9	"	"		X	BORING NO. 3	1	X	X	X			
10	"	"		X	"	1	X	X	X			
11	"	"		X	"	1	X	X	X			
12	"	"		X	"	1	X	X	X			
13	"	"		X	BORING NO. 4	1	X	X	X			
14	"	"		X	"	1	X	X	X			
15	"	"		X	"	1	X	X	X			

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
JEFF WARD	9-16-86	4:43P	Julie Ward				
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:

Mode of Transportation	EIS Vehicle	Public Transportation
		Carrier: Way or Air Bill No.

EIS ENVIRONMENTAL ENGINEERS, INC.
1701 North Ironwood Drive • South Bend, Indiana 46635 • 219/277-5715

SAMPLE LOG-IN SHEET FOR
FIELD SAMPLE COLLECTION

Client: JOHNSON CONTROLS INC.
Project Number: 1332-01
Site Location: 1302 E Monroe Goshen
Date of Collection: 9-16-86
Sampler(s) Name: J.L. Ward

No. of Containers: 16

Sample Type Legend
(S) = Soil
SW = Surface Water
GW = Groundwater
SL = Sludge
WW = Wastewater
__ = ______

Sample Number	Depth	Sample Type	Comments
1	5'	S	BORING #1 FINE TO COARSE SAND
2	10'	S	" "
3	15'	S	"
4	20'	S	"
5	5'	S	BORING #2 "
6	10'	S	" "
7	15'	S	" "
8	20'	S	" "
9	5'	S	BORING #3 "
10	10'	S	" "
11	15'	S	" "
12	20'	S	" "
13	5'	S	BORING #4 "
14	10'	S	" "
15	15'	S	" "
16	20'	S	" "

EIS ENVIRONMENTAL ENGINEERS, INC.

SUBSURFACE EXPLORATION LOG

Boring No. 1

Sheet 1 of 1

Project No.

Client Johnson Controls, Inc.

Site Location 1302 E. Monroe, Goshen, IN

Date Started 9-16-86

Date Completed 9-16-86

Boring Location E Parking Lot

Hammer Wt. 140 lbs.

Boring Method Hollow Stem

Drop Distance 30"

Sampler Type Split-spoon

Sampler Size 18" x 1 1/2"

Datum NA

Surface Elevation NA

GROUNDWATER DEPTH: While Drilling _____ Ft. At Completion 12.8' Ft.

After Completion _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft.

Soil Layer Limits		Soil Description	Sample Data					Remarks
From	To		No.	From	To	%Rec.	Blows per 6"	
0.0	0.4	Pavement and gravel	1	3.5	5.0	100	1-1-2	
0.4	3.5	Med brn fine to coarse sand 10 yr 5/4	2	8.5	10.0	100	3-6-9	
3.5	16.5	Med brn to gray coarse to very coarse sand tr pea size gravel wet 12.8 10 yr 5/4	3	13.5	15.0	100	4-10-12	
			4	18.5	20.0		5-7-9	
16.5	20.0	Gray mixed very coarse sand 5 yr 5/2						
		TD 20'						

EIS ENVIRONMENTAL ENGINEERS, INC.

SUBSURFACE EXPLORATION LOG

Boring No. 2
Sheet 1 of 1
Project No.

Client Johnson Controls, Inc.
Site Location 1302 E. Monroe, Goshen, IN

Date Started 9-16-86
Date Completed 9-16-86

Boring Location E Parking Lot
Hammer Wt. 140 lbs.

Boring Method Hollow Stem
Drop Distance 30"

Sampler Type Split-spoon
Sampler Size 18" x 1 1/2"

Datum NA
Surface Elevation NA

GROUNDWATER DEPTH: While Drilling _____ Ft. At Completion 12.8 Ft.

After Completion _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft.

Soil Layer Limits		Soil Description	Sample Data					Remarks
From	To		No.	From	To	%Rec.	Blows per 6"	
0.0	0.4	Pavement gravel	1	3.5	5.0	100	3-4-6	
0.4	3.5	Med brn fine to coarse sand 10 yr 5/4	2	8.5	10.0	100	10-11-10	
			3	13.5	15.0	100	5-6-9	
3.5	16.5	Med brn to gray coarse to very coarse sand tr pea size gravel wet 12.8 10 yr 5/4	4	18.5	20.0	100	4-7-8	
16.5	20.0	Gray mixed very coarse sand 5 yr 5/2						
		TD 20'						

EIS ENVIRONMENTAL ENGINEERS, INC.

SUBSURFACE EXPLORATION LOG

Boring No. 3

Sheet 1 of 1

Project No.

Client Johnson Controls, Inc.

Site Location 1302 E. Monroe, Goshen, IN

Date Started 9-16-86

Date Completed 9-16-86

Boring Location E Parking Lot

Hammer Wt. 140 lbs.

Boring Method Hollow Stem

Drop Distance 30"

Sampler Type Split-spoon

Sampler Size 18" x 1 1/2"

Datum NA

Surface Elevation NA

GROUNDWATER DEPTH: While Drilling _____ Ft. At Completion 12.7 Ft.

After Completion _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft.

Soil Layer Limits		Soil Description	Sample Data					Remarks
From	To		No.	From	To	%Rec.	Blows per 6"	
0.0	0.4	Pavement gravel	1	3.5	5.0	100	2-2-2	
0.4	3.5	Med brn fine to coarse sand 10yr 5/4	2	8.5	10.0	100	3-6-9	
			3	13.5	15.0	100	6-9-12	
3.5	16.0	Med brn to gray coarse to very coarse sand tr pea size gravel wet 12.7 10 yr 5/4	4	18.5	20.0	100	2-5-11	
16.0	20.0	Gray mixed very coarse sand 5 yr 5/2						
		TD 20'						

EIS ENVIRONMENTAL ENGINEERS, INC.

SUBSURFACE EXPLORATION LOG

Boring No. 4
Sheet 1 of 1
Project No.

Client Johnson Controls, Inc.
Site Location 1302 E. Monroe, Goshen, IN

Date Started 9-16-86
Date Completed 9-16-86

Boring Location E Parking Lot
Hammer Wt. 140 lbs.

Boring Method Hollow Stem
Drop Distance 30"

Sampler Type Split-spoon
Sampler Size 18" x 1 1/2"

Datum NA
Surface Elevation NA

GROUNDWATER DEPTH: While Drilling _____ Ft. At Completion 12.7 Ft.

After Completion _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft; _____ Hrs. _____ Ft.

Soil Layer Limits		Soil Description	Sample Data					Remarks
From	To		No.	From	To	%Rec.	Blows per 6"	
0.0	0.4	Pavement gravel	1	3.5	5.0	100	2-2-2	
0.4	3.5	Med brn fien to coarse sand 10 yr 5/4	2	8.5	10.0		4-7-10	
			3	13.5	15.0		5-7-9	
3.5	16.0	Med brn to gray coarse to very coarse sand tr pea size gravel wet 12.7 10 yr 5/4	4	18.5	20.0		3-6-11	
16.0	20.0	Gray mixed very coarse sand 5/yr 5/2						
		TD 20'						